

AU 128502
Rec'd PCT/PTO 25 FEB 2005

**PATENT COOPERATION TREATY
PCT
INTERNATIONAL PRELIMINARY EXAMINATION REPORT**

REC'D 16 AUG 2004

WIPO

PCT

(PCT Article 36 and Rule 70)

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|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Applicant's or agent's file reference P24487 | FOR FURTHER ACTION | See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416). |
| International Application No. PCT/SG2002/000206 | International Filing Date (day/month/year) 5 September 2002 | Priority Date (day/month/year) 5 September 2002 |
| International Patent Classification (IPC) or national classification and IPC Int. Cl. ⁷ H04N 7/50 | | |
| Applicant LABORATORIES FOR INFORMATION TECHNOLOGY et al | | |

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| 1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36. |
| 2. This REPORT consists of a total of 3 sheets, including this cover sheet. <input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT). These annexes consist of a total of sheet(s). |
| 3. This report contains indications relating to the following items: I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application |

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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| Date of submission of the demand 15 March 2004 | Date of completion of the report 6 August 2004 |
| Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929 | Authorized Officer P. THONG Telephone No. (02) 6283 2128 |

I. Basis of the report

1. With regard to the elements of the international application:*

the international application as originally filed.

the description, pages , as originally filed,
pages , filed with the demand,
pages , received on with the letter of

the claims, pages , as originally filed,
pages , as amended (together with any statement) under Article 19,
pages , filed with the demand,
pages , received on with the letter of

the drawings, pages , as originally filed,
pages , filed with the demand,
pages , received on with the letter of

the sequence listing part of the description:
pages , as originally filed
pages , filed with the demand
pages , received on with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language which is:

the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

the language of publication of the international application (under Rule 48.3(b)).

the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

contained in the international application in written form.

filed together with the international application in computer readable form.

furnished subsequently to this Authority in written form.

furnished subsequently to this Authority in computer readable form.

The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

4. The amendments have resulted in the cancellation of:

the description, pages

the claims, Nos.

the drawings, sheets/fig.

5. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|-----|
| Novelty (N) | Claims 1-23 | YES |
| | Claims | NO |
| Inventive step (IS) | Claims 1-23 | YES |
| | Claims | NO |
| Industrial applicability (IA) | Claims 1-23 | YES |
| | Claims | NO |

2. Citations and explanations (Rule 70.7)

D1 = "Optimal Multidimensional Bit-Rate Control for Video Communication" (Reed et al.)
 IEEE TRANSACTIONS ON IMAGE PROCESSING, Vol. 11, No. 8, pp 873-885, August 2002

D2 = US 6091776 A (LINZER) 18 July 2000

D2 = WO 99/52295 A (SARNOFF CORPORATION) 14 October 1999

D3 = "Minimax Frame Rate Control Using a Rate-Distortion Optimized Wavelet Coder"
 (Yang & Hemami) Proceedings of the IEEE Int. Conference on Image Processing October 1999

D4 = US 5 872 598 A (LEGALL et al.) 16 February 1999

D5 = US 5 717 464 A (PERKINS et al.) 10 February 1998

The citations appear to be silent at least in respect to determining desired frame rates on the basis of available computational resources and determining a target buffer level based on the desired frame rate and position of the inter-frame with respect to the I-frames claimed in the application.

Available computational resources for video encoding may have been generally known to present a problem in the art at the priority date of the application. Buffer considerations are also discussed in at least some of the citations. However, there is nothing in any of the citations, either individually or in combination, disclosing the above specific steps of the claimed invention.

Therefore, the subject matter of the claims is new and meets the requirements of Article 33(2) PCT with regard to novelty. Furthermore, the subject matter of the claims is not obvious and meets the requirements of Article 33(3) PCT with regard to inventive step. The subject matter of the claims is also industrially applicable.